

NOTE

New Distributional and First Specific Host-Plant Records for *Thionia acuta* Doering and *T. producta* Van Duzee (Auchenorrhyncha: Fulgoroidea: Issidae)

The mostly Neotropical issid genus *Thionia* Stål (ca. 72 spp.) includes eight species in America north of Mexico (Wheeler and Wilson, 1987. Journal of the New York Entomological Society 95: 440–451). Information on host plants of North American *Thionia* species and descriptions of their nymphal stages have been published mainly in the last few years (Wheeler and Wilson 1987; 1988. Journal of the New York Entomological Society 96: 266–273; Wheeler, 1996. Proceedings of the Entomological Society of Washington 98: 374–375). Wilson et al. (1994. pp. 7–113 In Denno and Perfect, eds., Planthoppers: Their Ecology and Management, Chapman and Hall, New York) provided a list of recorded host plants of the Fulgoroidea. Herein, I provide new state records and the first host-plant associations for the seldom-collected *T. acuta* Doering, as well as the first specific host records for the morphologically similar *T. producta* Van Duzee.

Thionia acuta Doering

Doering (1939. University of Kansas Science Bulletin 25: 447–575[1938]) described this issid under the name *T. naso* Fowler, relying on the identification of E. D. Ball, who compared Doering's specimens from Concan, Tex., with Fowler's holotype of *T. naso* from Jalapa, Mexico. Once Doering had access to the holotype of *T. naso*, she realized the Texas material represented a new species, which she named *acuta* (Doering, 1941. University of Kansas Science Bulletin 27:185–233) and described by bibliographic reference to her previous paper (Doering 1939). No records of *T. acuta* have been published since Doering's (1939)

description, and host relationships have remained unknown.

In 1999, I collected nymphs and adults of *T. acuta* in Kansas and Oklahoma on juniper (*Juniperus* spp.; Cupressaceae) in native stands and landscape plantings. Voucher specimens of *T. acuta* (and *T. producta* from Arizona) have been deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM), and the S.W. Wilson Collection, Central Missouri State University, Warrensburg.

Collection records.—KANSAS: Riley Co., Kansas State University, Manhattan (39°11'39"N, 96°34'57"W; elev. 330 m), 22 June 1999, ex *Juniperus virginiana* trees (9♂, 16♀, 3 5th instars). OKLAHOMA: Cleveland Co., University of Oklahoma, Norman (35°12'26"N, 97°26'54"W; elev. 292 m), 12 June 1999, ex *Juniperus chinensis*, *J. virginiana* (11♂, 12♀, 3 5th instars); Garvin Co., unnamed road SW of Rts. 7 & 35, W of Davis (34°29'32"N, 97°11'46"W; elev. 252 m), 13 June 1999, ex *Juniperus virginiana* (1♂, 6♀, 1 5th instar); Woodward Co., Rt. 34, 3.7 km N of Vici (36°10'45"N, 99°19'55"W, elev. 690 m), 25 June 1999 (2♂, 7♀).

Thionia producta Van Duzee

Described from Colorado by Van Duzee (1908. Proceedings of the Academy of Natural Sciences of Philadelphia 59:467–498[1907]), *T. producta* has since been recorded from Arizona, Texas, and Utah (Doering 1939; Metcalf, 1958. General Catalogue of the Homoptera, Fasc. IV, Part 15 Issidae, Waverly Press, Baltimore). The host plant, based on R. H. Beamer's collecting at Leakey, Tex., on 8 July 1936, is

“cedar” (Doering 1939). My collections of *T. producta* in Arizona’s Huachuca Mountains confirm cedar (*Juniperus*) as a host, specifically alligator juniper, *J. deppeana* Steudel.

Collection records.—ARIZONA: Cochise Co., Ash Canyon Rd. nr. Twin Oaks Rd., 0.4 km W of Rt. 92 (31°23.3'N, 110°14.1'W; elev. 1540 m), 4 June 1997, ex *Juniperus deppeana* (9♂, 7♀; 1 3rd, 1 4th, and 13 5th instars); Miller Canyon Rd., 1.2 km W of Rt. 92 (31°25.7'N, 110°15.2'W; elev. 1525 m), 5 June 1997, ex *Juniperus deppeana* (6♂, 1♀; 13 5th instars).

Discussion.—Kansas and Oklahoma are new state records for *T. acuta*, known previously only from Concan, Tex. The Kansas collection extends the range of this planthopper northeast by more than 1,100 km. In addition, collections of nymphs and adults from native stands of *Juniperus virginiana* and in landscape plantings from *J. virginiana* trees (10–15 m high) and a *J. chinensis* hedge (ca. 10 m long) represent the first published host associations for *T. acuta*. One specimen from the series that P.W. Oman collected at the type locality in Texas bears a “juniper” label, but host data were not mentioned by Doering (1939, 1941). Collections of *T. producta* nymphs from alligator juniper in the Huachuca Mountains of Arizona represent the first specific host records for a species known previously only from “cedar.”

In describing *T. acuta* (erroneously as *T. naso*), Doering (1939) noted its resemblance to the juniper-feeding *T. producta*. Because male genitalia of both species are similar—she alluded to minor differences—she did not describe those of *T. acuta*, but referred to the genitalic description under *T. producta* in the same publication. Although Doering (1939) acknowledged that some taxonomists might consider the two issids varieties of a single species, she felt it less

confusing if they were recognized as separate species.

Doering’s (1939) hesitancy in recognizing *T. acuta* and *T. producta* as distinct species might have been influenced not only by the morphological similarity of these planthoppers, but also by her awareness that both species had been collected on juniper at Concan, Tex. (assuming she saw the single specimen of *T. acuta* that bears host information). Only in the case of *T. producta*, however, did she publish a host association (Doering 1939).

Adults of *T. acuta* and *T. producta*, although similar, differ morphologically more than those of many cryptic or sibling species. The two species can be distinguished by length of the vertex (see Doering 1939: plate 51), even accounting for the intraspecific variation that she noted in *T. producta*, and by total body length with wings in repose (*T. acuta* = 6.8–8.4 mm, *T. producta* = 5.5–6.8 mm). These morphologically similar, juniper-feeding issids, nymphs of which are both green, might prove to be sister taxa when *Thionia* is analyzed cladistically.

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